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10/523,715	05/17/2005	Jens Birger Nilsson	66352-035-7	8394

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EXAMINER

GODENSCHWAGER, PETER F

ART UNIT	PAPER NUMBER
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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,715	Applicant(s) NILSSON, JENS BIRGER	
	Examiner PETER F. GODENSCHWAGER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/7/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because the values of the pH should not have percentage signs associated with them. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: On Pg. 7, Ln. 16, and Pg. 9, Ln. 13, of the original specification, it appears that "Acidic Acid" is a typo and is meant to refer to "Acetic Acid". For the purposes of further examination, "Acidic Acid" is being interpreted to refer to "Acetic Acid". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the concentrate" in line 2 of claim 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear whether “the concentration of the highly concentrated alkali” refers to the concentration of the alkali concentrate or the total concentration of the alkali in the composition. For the purposes of further examination, “the concentration of the highly concentrated alkali” is being interpreted as referring to the concentration of the alkali concentrate.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear whether the term “acidic acid” in claim 15 refers to acetic acid or the citric acid as both are acids that by definition are acidic. For the purposes of further examination, the term "acidic acid" is being interpreted as referring to acetic acid.

Claims 21-23 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claims 21 and 22, there is no indication of the units for the densities listed. For the purposes of further examination, the units are being assumed to be in g/mL or the equivalent.

For claim 22, it is not clear what acid "acidic acid" is referring to. For purposes of further examination, the term “acidic acid” is being interpreted as meaning acetic acid.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Mevel (US Pat. No. 3,274,105).

Regarding Claims 1 and 3-6: Mevel teaches a fire extinguishing solution comprising water, potassium hydroxide (93% / highly concentrated and >80%), acetic acid, tetrapotassium pyrophosphate, and potassium carbonate (dipotassium carbonate / K_2CO_3) with a pH of 7 to 8.5, overlapping the claimed pH range of 6.5-7.5 (1:50-60, 2:12-14, Example I 4:4-12). The Office recognizes that the potassium carbonate of Mevel is not taught as anhydrous potassium carbonate. However, as the potassium carbonate is being added to a solution of water, the claimed composition and the composition taught by Mevel will inherently be the same.

Regarding Claim 7: Mevel further teaches the addition of a wetting agent (surfactant/softening agent) (2:27-33).

Regarding Claim 10: Mevel further teaches the composition comprising potassium acetate (1:51-55).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105) as applied to claim 7 above.

Mevel teaches the composition of claim 7 as set forth above.

Regarding Claims 8 and 9: Mevel does not teach the specific gravities of 1.1 to 1.4 or about 1.3. However, Official notice is taken that it is well known in the art to change result effective variable such as specific gravity (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the specific gravity of the solution and would have been motivated to do so because Mevel teaches that the concentration of solids in the solution (which directly influences the specific gravity) influences the fire fighting capabilities (1:29-34).

Regarding Claim 11: Mevel does not teach the composition where the water is present in 28-38% by weight. However, Official notice is taken that it is well known in the art to change result effective variable such as the weight percent of water (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the weight percent of water in the solution and would have been motivated to do so because Mevel

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teaches that the concentration of the solutes in the water (weight percent of water relative to solute) should be changed depending on the type of fire being extinguished (2:1-11).

Regarding Claim 12: Mevel does not teach the composition where the highly concentrated alkali is present in 28-38% by weight. However, Official notice is taken that it is well known in the art to change result effective variable such as the weight percent of highly concentrated alkali (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the weight percent of highly concentrated alkali in the solution and would have been motivated to do so because Mevel teaches that the concentration of the solutes in the water should be changed depending on the type of fire being extinguished (2:1-11).

Regarding Claim 13: Mevel further teaches that the alkali is potassium hydroxide (Example I).

Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105) as applied to claim 13 above, and further in view of Berger (US Pat. No. 5,585,028).

Mevel renders the composition of claim 13 obvious as set forth above.

Regarding Claim 14: Mevel does not teach the composition further comprising citric acid. However, Berger teaches the use of citric acid in a fire extinguishing composition (4:32-38). Mevel and Berger are combinable because they are concerned with the same field of endeavor, namely fire fighting compositions. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the citric acid of Berger in the composition of

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Mevel and would have been motivated to do so because Berger teaches that the citric acid is useful to control the pH of the solution (4:32-38). Furthermore, Mevel teaches that the pH of the composition is important to regulate so that it does not become corrosive (1:51-60).

Regarding Claims 15 and 16: Mevel does not teach the composition where the acetic acid is 8-13% or 17-24% by weight. However, Official notice is taken that it is well known in the art to change result effective variable such as the weight percent of acetic acid (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the relative amount of acetic acid in the composition and would have been motivated to do so to control the pH of the solution which Mevel teaches is important to minimize the corrosiveness of the solution (1:51-60).

Regarding Claim 17: Mevel does not teach the composition where the dipotassium carbonate is present in 6-10% by weight. However, Official notice is taken that it is well known in the art to change result effective variable such as the weight percent of dipotassium carbonate (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the relative amount of dipotassium carbonate and would have been motivated to do so because Mevel teaches that the concentration of the solutes in the water should be changed depending on the type of fire being extinguished (2:1-11).

Regarding Claim 18: Mevel does not teach the composition where the tetrapotassium phosphate is present in 2-3% by weight. However, Official notice is taken that it is well known in the art to change result effective variable such as the weight percent of tetrapotassium phosphate (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art

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would have found it obvious to optimize the relative amount of tetrapotassium phosphate and would have been motivated to do so to optimize the fire extinguishing ability of the composition.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105) in view of Berger (US Pat. No. 5,585,028) as applied to claim 18 above, and further in view of Kaminstein et al. (US Pat. No. 3,976,580).

Mevel in view of Berger renders the composition of claim 18 obvious as set forth above.

Regarding Claim 19: Mevel does not teach the composition further comprising about 3-5% by weight of sodium hydrogen carbonate (sodium bicarbonate). However, Kaminstein et al. teaches the use of 5.6% by weight of sodium bicarbonate in a fire extinguishing composition (5:17-30). Mevel and Kaminstein et al. are combinable because they are concerned with the same field of endeavor, namely fire extinguishing compositions. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the sodium bicarbonate of Kaminstein et al. in the composition of Mevel and would have been motivated to do so because Kaminstein et al. teaches that sodium bicarbonate liberates non-combustible gas (5:33-40) which would enhance the fire extinguishing properties of the solution.

Regarding Claim 20: Mevel teaches the composition where the wetting agent (softening agent) is present in no more than 2% by weight (about 0.5-1.5% by weight) (2:34-40).

Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105).

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Mevel teaches a method of making a fire extinguishing solution comprising adding water, potassium hydroxide (93% / highly concentrated and >80%), acetic acid, tetrapotassium pyrophosphate, and potassium carbonate (dipotassium carbonate / K_2CO_3) with a pH of 7 to 8.5, overlapping the claimed pH range of 6.5-7.5 (1:50-60, 2:12-14, Example I 4:4-12). Furthermore, Mevel teaches adding the potassium hydroxide (concentrated alkali) to the water, then adding the acid to this solution (Example I).

Mevel does not teach the sequence of addition where the phosphate is added after the acetic acid and the alkali metal salt is added after the phosphate. However, Official notice is taken that it is well known in the art to change the sequence of addition for adding ingredients (See MPEP 2144.04 IV).

Mevel does not teach the density of 1.2 to 1.4. However, Official notice is taken that it is well known in the art to change result effective variable such as density (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the density of the solution and would have been motivated to do so because Mevel teaches that the concentration of solids in the solution (which directly influences the density) influences the fire fighting capabilities (1:29-34).

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105) in view of Berger (US Pat. No. 5,585,028) and Kaminstein et al. (US Pat. No. 3,976,580).

Mevel teaches a method of making a fire extinguishing solution comprising adding water, potassium hydroxide (93% / highly concentrated and >80%), acetic acid, tetrapotassium

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pyrophosphate, potassium carbonate (dipotassium carbonate / K_2CO_3), and a wetting agent (softener) with a pH of 7 to 8.5, overlapping the claimed pH range of 6.5-7.5 (1:50-60, 2:12-14, 27-33 and Example I 4:4-12). Furthermore, Mevel teaches adding the potassium hydroxide (concentrated alkali) to the water, then adding the acid to this solution (Example I).

Mevel does not teach the method of further adding citric acid. However, Berger teaches the use of citric acid in a fire extinguishing composition (4:32-38). Mevel and Berger are combinable because they are concerned with the same field of endeavor, namely fire fighting compositions. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the citric acid of Berger in the method of Mevel and would have been motivated to do so because Berger teaches that the citric acid is useful to control the pH of the solution (4:32-38). Furthermore, Mevel teaches that the pH of the composition is important to regulate so that it does not become corrosive (1:51-60).

Mevel does not teach the method of further adding sodium hydrogen carbonate (sodium bicarbonate). However, Kaminstein et al. teaches the use of sodium bicarbonate in a fire extinguishing composition (5:17-30). Mevel and Kaminstein et al. are combinable because they are concerned with the same field of endeavor, namely fire extinguishing compositions. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the sodium bicarbonate of Kaminstein et al. in the method of Mevel and would have been motivated to do so because Kaminstein et al. teaches that sodium bicarbonate liberates non-combustible gas (5:33-40) which would enhance the fire extinguishing properties of the solution.

Mevel does not teach the density of 1.2 to 1.4. However, Official notice is taken that it is well known in the art to change result effective variable such as density (See MPEP 2144.05).

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At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the density of the solution and would have been motivated to do so because Mevel teaches that the concentration of solids in the solution (which directly influences the density) influences the fire fighting capabilities (1:29-34).

Mevel does not teach the sequence of addition after the acetic acid. However, Official notice is taken that it is well known in the art to change the sequence of addition for adding ingredients (See MPEP 2144.04 IV).

Claim 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105) in view of Berger (US Pat. No. 5,585,028) and Kaminstein et al. (US Pat. No. 3,976,580) as applied to claim 22 above, and when taken with Lim et al. (Intl. Pub. No. WO 90/11126).

Mevel in view of Berger and Kaminstein et al. renders the method of claim 22 obvious as set forth above.

Mevel does not teach the method where the components added under stirring are simultaneously influenced by an energy wave, generated mechanically, during simultaneous influence of a variable magnetic field, applied externally (a magnetic stirrer). However, Official notice is taken that it is well known in the art to use magnetic stirrers for mixing solutions as evidenced by Lim et al. (Pg. 1 Lns 9-16). At the time of the invention, a person of ordinary skill in the art would have found it obvious to use a magnetic stirrer and would have been motivated to do so because Lim et al. teaches that such stirrers provide more effective mixing (abstract, Pg. 2 Lns 10-13).

Claim 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105) as applied to claim 1 above, and further in view of Beythein (US Pat. No. 1,908,398).

Mevel teaches the composition of claim 1 as set forth above.

Mevel does not teach the composition further comprising an expansion agent to produce a fire retardant foam. However, Beythein teaches the use of bicarbonates that release CO₂ (expansion agent) to produce a foam as a fire retardant (1:14-21 and 2:64-68). Mevel and Beythein are combinable because they are concerned with the same field of endeavor, namely fire extinguishing compositions. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the foam forming agents of Beythein in the composition of Mevel and would have been motivated to do so because the hard foams created by fire extinguishing agents are known to protect substrates from further combustion.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mevel (US Pat. No. 3,274,105) as applied to claim 21 above, and when taken with Lim et al. (Intl. Pub. No. WO 90/11126).

Mevel renders the method of claim 21 obvious as set forth above.

Mevel does not teach the method where the components added under stirring are simultaneously influenced by an energy wave, generated mechanically, during simultaneous influence of a variable magnetic field, applied externally (a magnetic stirrer). However, Official notice is taken that it is well known in the art to use magnetic stirrers for mixing solutions as evidenced by Lim et al. (Pg. 1 Lns 9-16). At the time of the invention, a person of ordinary skill

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in the art would have found it obvious to use a magnetic stirrer and would have been motivated to do so because Lim et al. teaches that such stirrers provide more effective mixing (abstract, Pg. 2 Lns 10-13).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached form PTO-892.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796
14-Feb-08

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